

LCR Coho ESU: Coast Stratum																							
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Grays		Elochoman		Mill Creek		Youngs Bay		Big Creek		Clatskanie		Scappoose			
								Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est				
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions																
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions						X		X								
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions																
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams																		
			2.2	Predation		8a, 8b, 8c, 8d	Predation	X	X	X	X	X	X										
			2.2.a	Predation (non-salmonid fish, marine mamals)	Dams	8a, 8d																	
			2.2.b	Predation (birds)	Land use	8b								X			X		X		X		
			2.2.c	Predation (hatchery fish)	Hatcheries	8c																	
			2.3	Pathogens	Disease, Sea Lice		Pathogens	?															
2	Direct Mortality	Predation, Disease, Species Interactions	2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest		X		X		X		X		X		X		X		
			3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals							X		X		X		X
			3.2			Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals							X		X		X		X	
			4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food	?		?		?		X		X		X		X
						4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition	?		?		?		X		X		X		X
						4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food	?		?		?								
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X			
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity	X		X		X		X		X		X					
			5.2.b	LWD Recruitment	Past and/or current land use practices																		
			5.2.a	LWD Recruitment	Dams																		
6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X			
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X					
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e	Food, Channel stability, habitat diversity, key habitat, flow		X		X		X										
			6.3.a	Competition from hatchery smolts	Hatcheries	1a								X		X		X		X			
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a								X		X		X		X			
			6.3.c	Increased microdetrital inputs	Dam reservoirs	3b								X		X		X		X			
			6.3.d	Altered plume dynamics	Dams	5b								X		X		X		X			
			6.3.e	Impaired sediment/sandf routing	Dams	6c								X		X		X		X			
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e								X		X		X		X			
6.4	Nearshore Conditions																						

LCR Coho ESU: Cascade Stratum																																				
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Clackamas		Sandy		Lower Cowlitz		Coweeman		Toutle (SF)		Toutle (NF)		Upper Cowlitz		Lewis (EF)		Lewis (NF)		Salmon Creek		Cispus		Tilton		Kalama		Washougal		
								Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions	X												X				X				X		X						
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions	X																												
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions																													
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams																															
			2.2	Predation		8a, 8b, 8c, 8d	Predation					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			2.2.a	Predation (non-salmonid fish, marine mamals)	Dams	8a, 8d																														
			2.2.b	Predation (birds)	Land use	8b			X		X																									
			2.2.c	Predation (hatchery fish)	Hatcheries	8c																														
			2.3	Pathogens	Disease, Sea Lice		Pathogens				?	?								?	?			?	?	?	?	?	?				?	?	?	?
			2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		X																									
			3.2	Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		X																									
4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food		X		X	?		?		?		?		?		?		?		?		?		?			?			
			4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition		X		X	?				?		?		?		?		?		?		?				?				
			4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food					?		?		?		?		?		?		?		?		?		?			?			
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X		X		X		X		X			X		X			
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity	X		X		X		X		X		X		X		X		X		X		X			X		X			
			5.2.b	LWD Recruitment	Past and/or current land use practices																															
			5.2.a	LWD Recruitment	Dams																															
6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X		X		X		X		X			X		X			
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X		X		X		X		X			X		X			
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e	Food, Channel stability, habitat diversity, key habitat, flow						X		X		X		X		X		X		X		X		X			X		X		
			6.3.a	Competition from hatchery smolts	Hatcheries	1a			X		X																									
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a			X		X																									
			6.3.c	Increased macrodetrital inputs	Dam reservoirs	3b			X		X																									
			6.3.d	Altered plume dynamics	Dams	5b			X		X																									
			6.3.e	Impaired sediment/sandf routing	Dams	6c			X		X																									
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e			X		X																									
6.4	Nearshore Conditions																																			

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LCR Coho ESU: Gorge Stratum													
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Lower Gorge		Upper Gorge/White Slamon		Upper Gorge/Hood	
								Trib	Est	Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantitiy		6a, 6b, 6c, 6d	Sediment			X	X		
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d			X				X
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b					X		
			8.1.c	Increased Sediment Quantity	Dam removal				X				
9	Water Quality		9.1	Temperature		9a, 9b	Temperature			X	X		
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a			X			X	X
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b			X				X
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen						
			9.3	Turbidity		6a, 6b	Sediment			X	X		
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X				X
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b							
			9.4	pH									
			9.5	Salinity			Salinity						
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow			X			
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X				X	
			10.1.b	Altered Hydrology	Dams	5a, 5b			X			X	X
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow			X			
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X			X	X
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e						X	
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f		X					
			10.3	Altered Flow Timing		5b, 5c	Flow			X			
			10.3a	Altered Flow Timing	Dams	5b			X				X
			10.3.b	Altered Flow Timing	Land use	5c		X				X	
11	Population Diversity	Genetic drift, loss of genetic diversity, artifical selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest		X				X
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest						
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X				X	

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LCR Chinook ESU: Gorge Spring Stratum											
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Hood		White Salmon	
								Trib	Est	Trib	Est
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions	X		X	
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions				
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions				
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams						
			2.2	Predation		8a, 8b, 8c, 8d	Predation				
			2.2.a	Predation (non-salmonid fish, marine mammals)	Dams	8a, 8d		X	X	X	
			2.2.b	Predation (birds)	Land use	8b			X		
			2.2.c	Predation (hatchery fish)	Hatcheries	8c					
			2.3	Pathogens	Disease, Sea Lice		Pathogens				
			2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest		X	X	
3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		
			3.2	Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals	X	X		
4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food		X		
			4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition	X	X	X	
			4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food				
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity				
			5.2.b	LWD Recruitment	Past and/or current land use practices						
			5.2.a	LWD Recruitment	Dams					X	

6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e	Food, Channel stability, habitat diversity, key habitat, flow				
			6.3.a	Competition from hatchery smolts	Hatcheries	1a			X		
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a			X		
			6.3.c	Increased microdetrital inputs	Dam reservoirs	3b			X		
			6.3.d	Altered plume dynamics	Dams	5b			X		
			6.3.e	Impaired sediment/sandf routing	Dams	6c			X		
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e			X		
			6.4	Nearshore Conditions							
LCR Chinook ESU: Gorge Spring Stratum											
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Hood		White Salmon	
								Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantity		6a, 6b, 6c, 6d	Sediment				
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d			X		
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b		X			
			8.1.c	Increased Sediment Quantity	Dam removal					X	
9	Water Quality		9.1	Temperature		9a, 9b	Temperature				
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a			X		
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b			X		
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen				
			9.3	Turbidity		6a, 6b	Sediment				
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X	X	
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b		X			
			9.4	pH							
			9.5	Salinity			Salinity				

10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow				
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X			
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow				
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b		X		X	
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e		X			
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f					
			10.3	Altered Flow Timing		5b, 5c	Flow				
			10.3.a	Altered Flow Timing	Dams	5b			X	X	
			10.3.b	Altered Flow Timing	Land use	5c		X			
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest		X	X	
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest				
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X			

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LCR Chinook ESU: Cascade Fall Stratum																												
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Clackamas		Sandy		Lower Cowlitz		Upper Cowlitz		Toutle		Coweeman		Kalama		Lewis (EF)		Salmon Creek		Washougal		
								Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 6b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 6b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spanning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantity		6a, 6b, 6c, 6d	Sediment					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d		X	X	X	X																	
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b		X		X																		
9	Water Quality		9.1	Temperature		9a, 9b	Temperature								X		X		X		X		X		X		X	
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a		X	X		X																	
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b		X	X		X																	
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen																					
			9.3	Turbidity		6a, 6b	Sediment					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X		X																	
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b		X		X																		
			9.4	pH																								
			9.5	Salinity			Salinity																					
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X		X																		
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		X																	
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X		X																	
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e																						
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f																						
			10.3	Altered Flow Timing		5b, 5c	Flow					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			10.3a	Altered Flow Timing	Dams	5b			X		X																	
			10.3.b	Altered Flow Timing	Land use	5c		X		X																		
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest			X		X		X		X		X		X		X		X		X		
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest																					
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X		X		X		X		X		X		X		X		X		X		

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LCR Chinook ESU: Gorge Fall Stratum															
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Lower Gorge		Upper Gorge		Hood		White Salmon	
								Trib	Est	Trib	Est	Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantity		6a, 6b, 6c, 6d	Sediment								
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d			X		X		X		
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b						X			
			8.1.c	Increased Sediment Quantity	Dam removal									X	
9	Water Quality		9.1	Temperature		9a, 9b	Temperature								
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a			X		X		X		
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b			X		X		X		
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen								
			9.3	Turbidity		6a, 6b	Sediment								
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X		X		X		
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b						X			
			9.4	pH											
			9.5	Salinity			Salinity								
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow								
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X		X		X			
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		X	X	X		
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow								
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X		X	X	X		
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e						X			
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f									
			10.3	Altered Flow Timing		5b, 5c	Flow								
			10.3.a	Altered Flow Timing	Dams	5b			X		X		X		
			10.3.b	Altered Flow Timing	Land use	5c		X		X		X			
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest		X		X		X		X
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest								
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X		X		X		X	

LCR Chinook ESU: Cascade Late Fall Stratum

ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Sandy		Lewis (NF)	
								Trib	Est	Trib	Est
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions	X			
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions				
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions				
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams						
			2.2	Predation		8a, 8b, 8c, 8d	Predation			X	X
			2.2.a	Predation (non-salmonid fish, marine mammals)	Dams	8a, 8d					
			2.2.b	Predation (birds)	Land use	8b			X		
			2.2.c	Predation (hatchery fish)	Hatcheries	8c					
			2.3	Pathogens	Disease, Sea Lice		Pathogens				
			2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest		X	X	X
3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		
			3.2	Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		
4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food		X		
			4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition		X		
			4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food				
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity	X		X	
			5.2.b	LWD Recruitment	Past and/or current land use practices						
			5.2.a	LWD Recruitment	Dams						
6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e	Food, Channel stability, habitat diversity, key habitat, flow				X
			6.3.a	Competition from hatchery smolts	Hatcheries	1a			X		
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a			X		
			6.3.c	Increased microdetrital inputs	Dam reservoirs	3b			X		
			6.3.d	Altered plume dynamics	Dams	5b			X		
			6.3.e	Impaired sediment/sandf routing	Dams	6c			X		
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e			X		
			6.4	Nearshore Conditions							

LCR Chinook ESU: Cascade Late Fall Stratum

ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Sandy		Lewis (NF)	
								Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantity		6a, 6b, 6c, 6d	Sediment			X	
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d		X	X		
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b		X			
9	Water Quality		9.1	Temperature		9a, 9b	Temperature			X	
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a			X		
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b			X		
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen				
			9.3	Turbidity		6a, 6b	Sediment			X	
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X		
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b		X			
			9.4	pH							
			9.5	Salinity			Salinity				
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow			X	X
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X			
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow			X	X
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X		
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e					
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f					
			10.3	Altered Flow Timing		5b, 5c	Flow			X	X
			10.3.a	Altered Flow Timing	Dams	5b			X		
			10.3.b	Altered Flow Timing	Land use	5c		X			
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest		X		X
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest				
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X			

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LCR Chum ESU: Gorge Stratum											
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Lower Gorge		Upper Gorge	
								Trib	Est	Trib	Est
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions			X	X
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions				
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions				
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams						
			2.2	Predation		8a, 8b, 8c, 8d	Predation				
			2.2.a	Predation (non-salmonid fish, marine mamals)	Dams	8a, 8d				X	
			2.2.b	Predation (birds)	Land use	8b					
			2.2.c	Predation (hatchery fish)	Hatcheries	8c		X		X	X
			2.3	Pathogens	Disease, Sea Lice		Pathogens				
			2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest				
3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		X
			3.2	Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		X
4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food		X		X
			4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition				
			4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food				
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity	X		X	
			5.2.b	LWD Recruitment	Past and/or current land use practices						
			5.2.a	LWD Recruitment	Dams						
6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e	Food, Channel stability, habitat diversity, key habitat, flow				
			6.3.a	Competition from hatchery smolts	Hatcheries	1a					
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a			X		X
			6.3.c	Increased microdetrital inputs	Dam reservoirs	3b			X		X
			6.3.d	Altered plume dynamics	Dams	5b			X		X
			6.3.e	Impaired sediment/sandf routing	Dams	6c			X		X
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e			X		X
			6.4	Nearshore Conditions							

LCR Chum ESU: Gorge Stratum											
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Lower Gorge		Upper Gorge	
								Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantitiy		6a, 6b, 6c, 6d	Sediment				
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d			X		X
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b					
9	Water Quality		9.1	Temperature		9a, 9b	Temperature				
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a			X		X
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b			X		X
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen				
			9.3	Turbidity		6a, 6b	Sediment				
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X		X
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b					
			9.4	pH							
			9.5	Salinity			Salinity				
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow				
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X		X	
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		X
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow				
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X		X
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e					
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f					
			10.3	Altered Flow Timing		5b, 5c	Flow				
			10.3a	Altered Flow Timing	Dams	5b			X		X
			10.3.b	Altered Flow Timing	Land use	5c		X		X	
11	Population Diversity	Genetic drift, loss of genetic diversity, artificail selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest				
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest				
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c					

LCR Steelhead DPS: Cascade Winter Stratum																																				
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Clackamas		Sandy		Lower Cowlitz		Coweeman		Toutle (SF)		Toutle (NF)		Upper Cowlitz		Cispus		Tilton		Kalama		Lewis (NF)		Lewis (EF)		Salmon Creek		Washougal		
								Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions	X		X										X		X		X				X								
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions			X																										
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions																													
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams																															
			2.2	Predation		8a, 8b, 8c, 8d	Predation					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
			2.2.a	Predation (non-salmonid fish, marine mamals)	Dams	8a, 8d																														
			2.2.b	Predation (birds)	Land use	8b			X		X																									
			2.2.c	Predation (hatchery fish)	Hatcheries	8c																														
			2.3	Pathogens	Disease, Sea Lice		Pathogens					?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
			2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest		X		X		?		?		?		?		?		?		?		?		?		?		?		?	
3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		X																									
			3.2	Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals		X		X																									
4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food		X		X				?	?	?	?	?	?	?	?	?	?	?											
			4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition		X		X	?	?			?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?	
			4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food					?	?	?	?	?	?	?	?									?	?			?	?		?	
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X		X		X		X		X		X		X				
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity	X		X		X		X		X		X		X		X		X		X		X		X		X				
			5.2.b	LWD Recruitment	Past and/or current land use practices																															
			5.2.a	LWD Recruitment	Dams																															
6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X		X		X		X		X		X		X				
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X		X		X		X		X		X		X		X		X		X		X		X				
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e, 6f	Food, Channel stability, habitat diversity, key habitat, flow						X		X		X		X		X		X		X		X		X		X		X			
			6.3.a	Competition from hatchery smolts	Hatcheries	1a			X		X																									
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a			X		X																									
			6.3.c	Increased microdetrital inputs	Dam reservoirs	3b			X		X																									
			6.3.d	Altered plume dynamics	Dams	5b			X		X																									
			6.3.e	Impaired sediment/sandf routing	Dams	6c			X		X																									
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e			X		X																									
			6.4	Nearshore Conditions																																

LCR Steelhead DPS: Cascade Winter Stratum																																			
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Clackamas		Sandy		Lower Cowlitz		Coweeman		Toutle (SF)		Toutle (NF)		Upper Cowlitz		Cispus		Tilton		Kalama		Lewis (NF)		Lewis (EF)		Salmon Creek		Washougal	
								Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantity		6a, 6b, 6c, 6d	Sediment					X		X		X		X		X		X		X		X		X		X		X			
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d			X	X	X																								
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b		X		X																									
9	Water Quality		9.1	Temperature		9a, 9b	Temperature					X		X		X		X		X		X		X		X		X		X		X			
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a		X	X		X																								
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b		X	X		X																								
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen													?		?													
			9.3	Turbidity		6a, 6b, 6c	Sediment					X		X		X		X		X		X		X		X		X		X		X			
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X		X																								
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b		X		X																									
			9.4	pH																															
			9.5	Salinity			Salinity																												
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow					X		X		X		X		X		X		X		X		X		X		X			
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X		X																									
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		X																								
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow					X		X		X		X		X		X		X		X		X		X		X			
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X		X																								
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e				X																									
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f																													
			10.3	Altered Flow Timing		5b, 5c	Flow					X		X		X		X		X		X		X		X		X		X		X			
			10.3.a	Altered Flow Timing	Dams	5b			X		X																								
10.3.b	Altered Flow Timing	Land use	5c		X		X																												
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest																												
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest		X		X		X		X		X		X		X		X		X		X		X		X				
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X		X		X		X		X		X		X		X		X		X		X		X		X			

LCR Steelhead DPS: Gorge Winter Stratum													
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Lower Gorge		Upper Gorge		Hood	
								Trib	Est	Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantitiy		6a, 6b, 6c, 6d	Sediment						
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d			X		X		X
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b						X	
			8.1.c	Increased Sediment Quantity	Dam removal								
9	Water Quality		9.1	Temperature		9a, 9b	Temperature						
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a			X		X	X	X
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b			X		X		X
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen						
			9.3	Turbidity		6a, 6b, 6c	Sediment						
			9.3.a	Decreased Turbidity (dams)	Dams	6c			X		X		X
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b						X	
			9.4	pH									
9.5	Salinity			Salinity									
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow						
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c		X		X		X	
			10.1.b	Altered Hydrology	Dams	5a, 5b			X		X	X	X
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow						
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b			X		X	X	X
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e						X	
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f		X					
			10.3	Altered Flow Timing		5b, 5c	Flow						
			10.3.a	Altered Flow Timing	Dams	5b			X		X		X
10.3.b	Altered Flow Timing	Land use	5c		X		X		X				
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest				X		X
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest		X		X		X
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c		X		X		X	

LCR Steelhead DPS: Cascade Summer Stratum															
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Kalama		Lewis (NF)		Lewis (EF)		Washougal	
								Trib	Est	Trib	Est	Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantity		6a, 6b, 6c, 6d	Sediment	X				X		X	
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d									
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b									
9	Water Quality		9.1	Temperature		9a, 9b	Temperature					X		X	
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a									
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b									
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen								
			9.3	Turbidity		6a, 6b, 6c	Sediment	X				X		X	
			9.3.a	Decreased Turbidity (dams)	Dams	6c									
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b									
			9.4	pH											
			9.5	Salinity			Salinity								
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow	X				X		X	
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c									
			10.1.b	Altered Hydrology	Dams	5a, 5b									
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow	X				X		X	
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b									
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e									
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f									
			10.3	Altered Flow Timing		5b, 5c	Flow	X				X		X	
			10.3a	Altered Flow Timing	Dams	5b									
			10.3.b	Altered Flow Timing	Land use	5c									
11	Population Diversity	Genetic drift, loss of genetic diversity, artificial selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest								
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest		X		X		X		X
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c				X		X		X	

LCR Steelhead DPS: Gorge Summer Stratum											
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Wind		Hood	
								Trib	Est	Trib	Est
1	Habitat Quantity	Connectivity, Access, Structure, Simplification, Availability	1.1	Anthropogenic Barriers (dams)	Large Dams	4a, 4b, 6g	Obstructions	X	X	X	X
			1.2	Anthropogenic Barriers (other)	Hatchery Weirs, Road Crossings, Small Dams, Diversions	4c, 4d, 4e	Obstructions				
			1.3	Natural Barriers	Water Falls, Sand Bar, Bar Breach, Log Jams, Steep Gradient		Obstructions				
2	Direct Mortality	Predation, Disease, Species Interactions	2.1	Turbine/bypass mortality	Dams						
			2.2	Predation		8a, 8b, 8c, 8d	Predation	X	X		
			2.2.a	Predation (non-salmonid fish, marine mamals)	Dams	8a, 8d				X	X
			2.2.b	Predation (birds)	Land use	8b					X
			2.2.c	Predation (hatchery fish)	Hatcheries	8c					
			2.3	Pathogens	Disease, Sea Lice		Pathogens	?	?		
			2.4	Harvest	Consumptive, targeted fishery/gillnet fisheries targeted at other species	7a, 7b	Harvest		X		X
3	Toxic Contaminants	Pollution	3.1	Water	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals			X	X
			3.2	Biota	Agricultural Chemicals, Urban and Industrial Practices	9c, 9d	Chemicals			X	X
4	Food	Competition, Prey Availability, Species Interactions	4.1	Altered Primary Productivity	Dam Reservoirs	3a, 3b	Food				X
			4.2	Competition	Smolts from all Columbia Basin hatcheries	1a	Competition	?	?	X	X
			4.3	Altered Prey Composition and Diversity	Prey species/other species harvest		Food				
5	Riparian Condition	Impaired Riparian Function/Condition, Microclimate, Lack of Shade	5.1	Riparian Condition	Past and/or current land use practices	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			5.2	LWD Recruitment		6e, 6f	Channel stability, Flow, Habitat Diversity	X		X	
			5.2.b	LWD Recruitment	Past and/or current land use practices						
			5.2.a	LWD Recruitment	Dams						
6	Peripheral and Transitional Habitats	High quality over-winter rearing habitat, Habitat Diversity, (Key) Habitat Quantity/Quality, Refugia Habitat	6.1	Side Channel and Wetland Conditions	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.2	Floodplain Condition	Past and/or current land use practices/transportation corridor	6e, 6f	Channel stability, habitat diversity, key habitat	X		X	
			6.3	Estuary Conditions		3a, 3b, 5b, 6c, 6e, 6f	Food, Channel stability, habitat diversity, key habitat, flow		X		
			6.3.a	Competition from hatchery smolts	Hatcheries	1a					X
			6.3.b	Reduced macrodetrital inputs	Dam reservoirs	3a					X
			6.3.c	Increased microdetrital inputs	Dam reservoirs	3b					X
			6.3.d	Altered plume dynamics	Dams	5b					X
			6.3.e	Impaired sediment/sandf routing	Dams	6c					X
			6.3.f	Estuary habitat quality (complexity and diversity)	Dams	6e					X
			6.4	Nearshore Conditions							

LCR Steelhead DPS: Gorge Summer Stratum											
ID	Ecological Concern	Alternate Terms	ID	Ecological Concern Sub-Category	Threat	OR Plan Code	WA Plan Terms	Wind		Hood	
								Trib	Est	Trib	Est
7	Channel Structure and Form	Channel Conditions, Channel Form, Channel morphology, Channel Instability, Channel Stability, Loss of Spawning Substrate due to high flow, Bedload Movement	7.1	Bed and Channel Form	Past and/or current land use practices/transportation corridor	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X
			7.2	Instream Structural Complexity	Past and/or current land use practices	6e, 6f, 6g, 5b	Channel stability, habitat diversity, key habitat, flow	X	X	X	X
8	Sediment Conditions	Sediment, Stream Spawning Habitat, Spawning Gravel, Beach Spawning Habitat (lake), Substrate, Benthic Habitat	8.1	Sediment Quantitiy		6a, 6b, 6c, 6d	Sediment	X			
			8.1.a	Decreased Sediment Quantity	Dams	6c, 6d					X
			8.1.b	Increased Sediment Quantity	Past and/or current land use practices/transportation corridor	6a, 6b				X	
			8.1.c	Increased Sediment Quantity	Dam removal						
9	Water Quality		9.1	Temperature		9a, 9b	Temperature	X			
			9.1.a	Temperature (land use)	Land uses that impair riparian function/decrease streamflow	9a				X	X
			9.1.b	Temperature (dam reservoirs)	Large dam reservoirs	9b					X
			9.2	Oxygen	Agricultural Chemicals, Urban and Industrial Practices		Oxygen				
			9.3	Turbidity		6a, 6b, 6c	Sediment	X			
			9.3.a	Decreased Turbidity (dams)	Dams	6c					X
			9.3.b	Increased Turbidity (land use)	Land use/rural roads	6a, 6b				X	
			9.4	pH							
			9.5	Salinity			Salinity				
10	Water Quantity	Changes in Flow Regime, Spring Freshets, Piped Outfalls of Surface and Ground Water, Withdrawals, Flow-Related Plume Changes	10.1	Altered Hydrology		5a, 5b, 5c	Flow	X			
			10.1.a	Altered Hydrology	Past and/or current land use practices/transportation corridor	5c				X	
			10.1.b	Altered Hydrology	Dams	5a, 5b				X	X
			10.2	Decreased Water Quantity		5a, 5b, 5d, 5e, 5f	Flow	X			
			10.2.a	Decreased Water Quantity	Low-head hydro diversions, dams	5a, 5b				X	X
			10.2.b	Decreased Water Quantity	Irrigation and municipal withdrawals	5d, 5e				X	
			10.2.c	Decreased Water Quantity	Hatchery withdrawals	5f					
			10.3	Altered Flow Timing		5b, 5c	Flow	X			
			10.3a	Altered Flow Timing	Dams	5b					X
			10.3.b	Altered Flow Timing	Land use	5c				X	
11	Population Diversity	Genetic drift, loss of genetic diversity, artificail selection by hatchery personnel interbreeding	11.1	Impaired abundance and diversity (targeted fishing)	Consumptive, targeted fishery	7a	Harvest				X
			11.2	Impaired abundance and diversity (non-targeted fishing)	Gill net fisheries targeted at other species	7b	Harvest	X			
			11.3	Impaired productivity and diversity	Stray hatchery fish interbreeding with wild fish	7c				X	